

ABSTRACT

A multilayer optical interference filter having a multiplicity of optical cavities separated by a dielectric reflector stacks to achieve either a very narrow passband region or sharp transition between the passband and reflective region is substantially free of stress to preserve the desired optical performance upon
5 fabrication into miniature discrete filter elements. The substantial stress reduction is achieved by removing the filter from the substrate used in the deposition process in a controlled manner to preserve the structural integrity of the resulting free standing multilayer film structure. The structure can be further bonded or attached to other optical components to suppress a thermal shift in center wavelength without reintroducing
10 stress or interposing a massive substrate in the optical path through the filter.